REMARKS

Applicants affirm the election of claims 27-56 as requested by the Examiner under 35 USC §121 (pages 2 and 3 of the Office Action) and withdraw, without prejudice, claims 1-26.

The Examiner rejected as obvious (35 U.S.C. §103) pending claims 27-56 as being unpatentable over Huang (US 6,026,406) in view of Jakobsson (5,924,088). Applicants traverse the rejection of the pending claims 27-56 for the reasons discussed below.

1) Claims 27, 37, and 47

Independent claims 27, 37, and 47 disclose a system, method, and program for updating an index on a database table when data is added to the table. Data records are received records to load into the table. A selection is made of one of a first operation and second operation, wherein the first operation incrementally updates the index on the table as each received data record is added to the table and the second operation rebuilds the index from the table after all the received data records have been added to the table. A use is made of the first operation or second operation to update the index with the received data.

The Examiner acknowledges that the cited Huang (col. 2, lines 5-53, col. 3, lines 40-67 and col. 15, lines 8-60) does not teach the claim requirement that the use is made of the first operation or second operation to update the index with the received data. To address the shortcomings of the cited Huang, the Examiner cites Jakobsson (col. 8, lines 15-65) as teaching the claim requirements.

The cited Jakobsson discusses the heuristic ranking of index access methods. According to Jacobsson (col. 3, lines 42-45) an index access method is a combination of (1) and index and (2) a predicate containing a column upon which a index is built. Furthermore, Jacobsson (col 7, lines 49-55) mentions four different types of index access methods: a single column index access method, a fully matched multi-column index access method, a partially matched multi-column index access method and a singly matches multi-column index access method (col. 7 line 42 -

col. 8, line 14). The cited Jakobsson mentions that an index access path is a combination of index access methods used by a database server in retrieving data from a table (col 4, lines 1-3). Jacobsson (in the Abstract) mentions that the index access methods that comprise the index access path are selected from the set of index access methods according to a cost-benefit analysis.

The cited Jakobsson discusses heuristics ranking of index access methods for retrieving data from a table. Nowhere does the cited Jacobsson teach or suggest that the index access methods described in Jacobsson is one of the two updating methods required by the claims, i.e., (1) updating the index on the table as each received data record is added to the table (2) rebuilding the index from the table after all the received data records have been added to the table.

In fact, Jakobsson teaches away from the claim requirements because Jakobsson (col 7, lines 49-55) discusses four different types of index access methods: a single column index access method, a fully matched multi-column index access method, a partially matched multi-column index access method and a singly matches multi-column index access method (col. 7 line 42 - col. 8, line 14), The index access methods discussed by Jacobsson are different from the first and second operations, wherein the wherein the first operation incrementally updates the index on the table as each received data record is added to the table and the second operation rebuilds the index from the table after all the received data records have been added to the table.

For the above reasons, pending independent claims 27, 37, and 47 are patentable over the combination of Huang and Jakobsson because the cited combination does not teach or suggest all the claim limitations.

2) Claims 28-36, 38-46, 48-56

The Examiner has also rejected pending claims 28-36, 38-46 and 48-56 that depend directly or indirectly on the pending independent claims 27, 37, and 47 respectively. Applicants submit that these claims are patentable over the cited art because they depend from claims 27, 37, and 47 respectively which are patentable over the cited art for the reason discussed above, and because the combination of the limitations in the dependent claims 28-36, 38-46, 48-56 and the

base and intervening claims from which they depend provide further grounds of distinction over the cited art

3) Claims 28, 38, and 48

Pending claims 28, 38, and 48 depends from claim 27, 37 and 47 respectively and further require determining which of the first operation or second operation is more efficient, wherein the first or second operation determined to be more efficient is the selected operation used for updating the index with the received data.

The Examiner acknowledges that the cited Huang does not teach the requirement of determining which of the first operation or second operation is more efficient, wherein the first or second operation determined to be more efficient is the selected operation used for updating the index with the received data. To address the shortcomings of Huang the Examiner mentions that Jakobsson (col. 8, lines 15-65, col. 4 lines 1-67) teaches the claimed methods and the Examiner proposes that the superior performance characteristics of an index access path suggests the claim requirements of claims 28, 38, and 48.

However, the performance of the index access methods discussed by Jacobsson are different from the efficiency of the first and second operation as required by the pending claims 28, 38, 48. The efficiency in the pending claims 28, 38 and 48 is an efficiency to update the index with the received data. Nowhere does Jacobsson teach or suggest the efficiency to update the index with the received data.

For the above reasons, pending independent claims 28, 38, and 48 are patentable over the combination of Huang and Jakobsson because the cited combination does not teach or suggest all the claim limitations.

4) Claims 29, 39, and 49

Pending claims 29, 39, and 50 depends from claim 28, 38 and 48 respectively and further requires determining which operation is more efficient is a function of a percentage of the received data records to add to the table and characteristics of the index.

The Examiner acknowledges that Huang does not teach determining which operation is more efficient is a function of a percentage of the received data records. To address the shortcomings of Huang the Examiner cites Jacobsson as teaching the claim requirements and proposes that the combination of Jakobsson and Huang teach the claims limitations. Nowhere, does the cited Jakobsson discuss the claims requirement that determining which operation is more efficient is a function of a percentage of the received data records.

For the above reasons, pending dependent claims 29, 39, and 49 are patentable over the combination of Huang and Jakobsson because the cited combination does not teach or suggest all the claim limitations.

5) Claims 32, 42, and 52

Pending claims 32, 42, and 52 depends from claims 28, 38, and 48 respectively and further require determining which operation is more efficient further comprises considering at least one of a following factors: an estimated time required to extract index keys from the table, an estimated time to sort the index keys, and an estimated time to rebuild the index from the sorted keys.

The Examiner acknowledges that Huang does not teach determining which operation is more efficient and to address the shortcomings of Huang by mentioning that Jakobsson teaches the claim requirements. Nowhere does the cited Jakobsson teach the claim requirement of determining which operation is more efficient. The index access methods discussed by the cited Jakobsson do not relate to the claim requirements of the time required to extract index keys from the table, an estimated time to sort the index keys, and an estimated time to rebuild the index from the sorted keys.

For the above reasons, pending dependent claims 32, 42, and 52 are patentable over the combination of Huang and Jakobsson because the cited combination does not teach or suggest all the claim limitations.

6) Claims 33, 43, and 53

Pending claims 33, 43, and 53 depends from claims 28, 38, and 48 respectively and further require maintaining a list of threshold values for different index sizes and using the number of received data records to add to the table to determine a comparison value, wherein determining whether the first or second operation is more efficient is based on the comparison value and the threshold for the size of the index to be updated.

The Examiner acknowledges that Huang does not teach determining whether the first or second operation is more efficient is based on the comparison value. To address the shortcomings of Huang, the Examiner cites Jakobsson as teaching the claim requirements and proposes a modification to Huang and Jakobsson to arrive at the claim requirements of determining whether the first or second operation is more efficient is based on the comparison value. Nowhere does Huang or Jakobsson teach or suggest the claim requirement of determining whether the first or second operation is more efficient is based on the comparison value. Furthermore, nowhere does the cited Jakobsson teach or suggest using a comparison value for determining whether the first or second operation is more efficient.

For the above reasons, pending dependent claims 33, 43, and 53 are patentable over the combination of Huang and Jakobsson because the cited combination does not teach or suggest all the claim limitations.

7) Claims 36, 46, and 56

Pending claims 36, 46, and 56 depend from claims 33, 43, and 53 respectively and further require that the first operation is more efficient if the comparison value is less than the threshold value and wherein the second operation is more efficient if the comparison value is greater than the threshold value.

The Examiner acknowledges that Huang does not teach determining that the first operation is more efficient. To address the shortcomings of Huang the Examiner writes that Jakobsson teaches the claim requirements and proposes a modification to Huang and Jakobsson

to combine the two. Nowhere in the cited Jakobsson or the cited Huang is there a teaching or suggestion for the claim requirement of determining that the first operation is more efficient.

For the above reasons, pending dependent claims 36, 46, and 56 are patentable over the combination of Huang and Jakobsson because the cited combination does not teach or suggest all the claim limitations.

Conclusion

For all the above reasons, Applicant submits that the pending claims 27-56 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 50-0585.

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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By: Rabindranath Dutta

Rabindranath Dutta
Registration No. 51,010

Please direct all correspondences to:

David Victor
Konrad Raynes Victor & Mann, LLP
315 South Beverly Drive, Ste. 210
Beverly Hills, CA 90212
Tel: 310-553-7977
Fax: 310-556-7984